

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
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Application Serial Number: 1015961627
Source: IFWO
Date Processed by STIC: 4/12/07

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IFWO

RAW SEQUENCE LISTING

DATE: 04/12/2007

PATENT APPLICATION: US/10/596,627

TIME: 12:28:00

Input Set : A:\US 10596627 Seq List 237368.txt

Output Set: N:\CRF4\04122007\J596627.raw

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3 <110> APPLICANT: Evotec NeuroSciences GmbH
5 <120> TITLE OF INVENTION: Diagnostic and therapeutic use of the human HIF3alpha
6   gene and proteins for neurodegenerative diseases
8 <130> FILE REFERENCE: 042637wo Me/FM
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/596,627
C--> 11 <141> CURRENT FILING DATE: 2006-06-19
13 <160> NUMBER OF SEQ ID NOS: 31
15 <170> SOFTWARE: PatentIn Ver. 2.1
17 <210> SEQ ID NO: 1
18 <211> LENGTH: 289
19 <212> TYPE: DNA
20 <213> ORGANISM: Artificial Sequence
22 <220> FEATURE:
23 <223> OTHER INFORMATION: Description of Artificial Sequence:HIF3a cDNA
24   fragment
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28 gtaatccag cactttggga ggccaaggca ggtggatcgc ttgaactcag gagttcaaga 120
29 ccagcctggg caacatggtg gaacttcgtc tctacaaaac atataaacat cagccaggca 180
30 tgatggcaca tagctgcagt ccagctact tgtgggagct gaagtaggag gatcacttga 240
31 gccaggagg tcgaggctgt ggtgagctgt gtttgtgcca ctgcactcc 289
34 <210> SEQ ID NO: 2
35 <211> LENGTH: 450
36 <212> TYPE: PRT
37 <213> ORGANISM: Homo sapiens
39 <400> SEQUENCE: 2
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43 Trp Leu Thr Arg Cys Pro Ser Pro Ala Ala Ser Ala Pro Thr Trp Thr
44   20           25           30
46 Arg Pro Leu Ser Cys Ala Ser Pro Ser Ala Thr Cys Ala Cys Thr Ala
47   35           40           45
49 Ser Ala Pro Gln Leu Glu Leu Ile Gly His Ser Ile Phe Asp Phe Ile
50   50           55           60
52 His Pro Cys Asp Gln Glu Glu Leu Gln Asp Ala Leu Thr Pro Gln Gln
53   65           70           75           80
55 Thr Leu Ser Arg Arg Lys Val Glu Ala Pro Thr Glu Arg Cys Phe Ser
56   85           90           95
58 Leu Arg Met Lys Ser Thr Leu Thr Ser Arg Gly Arg Thr Leu Asn Leu
59   100          105          110
61 Lys Ala Ala Thr Trp Lys Val Leu Asn Cys Ser Gly His Met Arg Ala
62   115          120          125
64 Tyr Lys Pro Pro Ala Gln Thr Ser Pro Ala Gly Ser Pro Asp Ser Glu

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65      130      135      140
67 Pro Pro Leu Gln Cys Leu Val Leu Ile Cys Glu Ala Ile Pro His Pro
68 145      150      155      160
70 Gly Ser Leu Glu Pro Pro Leu Gly Arg Gly Ala Phe Leu Ser Arg His
71      165      170      175
73 Ser Leu Asp Met Lys Phe Thr Tyr Cys Asp Asp Arg Ile Ala Glu Val
74      180      185      190
76 Ala Gly Tyr Ser Pro Asp Asp Leu Ile Gly Cys Ser Ala Tyr Glu Tyr
77      195      200      205
79 Ile His Ala Leu Asp Ser Asp Ala Val Ser Lys Ser Ile His Thr Leu
80      210      215      220
82 Leu Ser Lys Gly Gln Ala Val Thr Gly Gln Tyr Arg Phe Leu Ala Arg
83 225      230      235      240
85 Ser Gly Gly Tyr Leu Trp Thr Gln Thr Gln Ala Thr Val Val Ser Gly
86      245      250      255
88 Gly Arg Gly Pro Gln Ser Glu Ser Ile Val Cys Val His Phe Leu Ile
89      260      265      270
91 Ser Gln Val Glu Glu Thr Gly Val Val Leu Ser Leu Glu Gln Thr Glu
92      275      280      285
94 Gln His Ser Arg Arg Pro Ile Gln Arg Gly Ala Pro Ser Gln Lys Asp
95      290      295      300
97 Thr Pro Asn Pro Gly Asp Ser Leu Asp Thr Pro Gly Pro Arg Ile Leu
98 305      310      315      320
100 Ala Phe Leu His Pro Pro Ser Leu Ser Glu Ala Ala Leu Ala Ala Asp
101      325      330      335
103 Pro Arg Arg Phe Cys Ser Pro Asp Leu Arg Arg Leu Leu Gly Pro Ile
104      340      345      350
106 Leu Asp Gly Ala Ser Val Ala Ala Thr Pro Ser Thr Pro Leu Ala Thr
107      355      360      365
109 Arg His Pro Gln Ser Pro Leu Ser Ala Asp Leu Pro Asp Glu Leu Pro
110      370      375      380
112 Val Gly Thr Glu Asn Val His Arg Leu Phe Thr Ser Gly Lys Asp Thr
113 385      390      395      400
115 Glu Ala Val Glu Thr Asp Leu Asp Ile Ala Gln Asp Pro Ser Thr Pro
116      405      410      415
118 Leu Leu Asn Leu Asn Glu Pro Leu Gly Phe His Phe Val Thr Gln Ser
119      420      425      430
121 Gly Val Gln Trp His Lys His Ser Ser Pro Gln Pro Arg Pro Pro Gly
122      435      440      445
124 Leu Lys
125      450
128 <210> SEQ ID NO: 3
129 <211> LENGTH: 342
130 <212> TYPE: PRT
131 <213> ORGANISM: Homo sapiens
133 <400> SEQUENCE: 3
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135 1      5      10      15
137 Glu Lys Ser Arg Asp Ala Ala Arg Ser Arg Arg Ser Gln Glu Thr Glu

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138          20          25          30
140 Val Leu Tyr Gln Leu Ala His Thr Leu Pro Phe Ala Arg Gly Val Ser
141          35          40          45
143 Ala His Leu Asp Lys Ala Ser Ile Met Arg Leu Thr Ile Ser Tyr Leu
144          50          55          60
146 Arg Met His Arg Leu Cys Ala Ala Gly Glu Trp Asn Gln Val Gly Ala
147 65          70          75          80
149 Gly Gly Glu Pro Leu Asp Ala Cys Tyr Leu Lys Ala Leu Glu Gly Phe
150          85          90          95
152 Val Met Val Leu Thr Ala Glu Gly Asp Met Ala Tyr Leu Ser Glu Asn
153          100          105          110
155 Val Ser Lys His Leu Gly Leu Ser Gln Leu Glu Leu Ile Gly His Ser
156          115          120          125
158 Ile Phe Asp Phe Ile His Pro Cys Asp Gln Glu Glu Leu Gln Asp Ala
159          130          135          140
161 Leu Thr Pro Gln Gln Thr Leu Ser Arg Arg Lys Val Glu Ala Pro Thr
162 145          150          155          160
164 Glu Arg Cys Phe Ser Leu Arg Met Lys Ser Thr Leu Thr Ser Arg Gly
165          165          170          175
167 Arg Thr Leu Asn Leu Lys Ala Ala Thr Trp Lys Val Leu Asn Cys Ser
168          180          185          190
170 Gly His Met Arg Ala Tyr Lys Pro Pro Ala Gln Thr Ser Pro Ala Gly
171          195          200          205
173 Ser Pro Asp Ser Glu Pro Pro Leu Gln Cys Leu Val Leu Ile Cys Glu
174          210          215          220
176 Ala Ile Pro His Pro Gly Ser Leu Glu Pro Pro Leu Gly Arg Gly Ala
177 225          230          235          240
179 Phe Leu Ser Arg His Ser Leu Asp Met Lys Phe Thr Tyr Cys Asp Asp
180          245          250          255
182 Arg Ile Ala Glu Val Ala Gly Tyr Ser Pro Asp Asp Leu Ile Gly Cys
183          260          265          270
185 Ser Ala Tyr Glu Tyr Ile His Ala Leu Asp Ser Asp Ala Val Ser Lys
186          275          280          285
188 Ser Ile His Thr Leu Leu Ser Lys Gly Gln Ala Val Thr Gly Gln Tyr
189          290          295          300
191 Arg Phe Leu Ala Arg Ser Gly Gly Tyr Leu Trp Thr Gln Thr Gln Ala
192 305          310          315          320
194 Thr Val Val Ser Gly Gly Arg Gly Pro Gln Ser Glu Ser Ile Val Cys
195          325          330          335
197 Val His Phe Leu Ile Arg
198          340
201 <210> SEQ ID NO: 4
202 <211> LENGTH: 632
203 <212> TYPE: PRT
204 <213> ORGANISM: Homo sapiens
206 <400> SEQUENCE: 4
207 Met Ala Leu Gly Leu Gln Arg Ala Arg Ser Thr Thr Glu Leu Arg Lys
208 1          5          10          15
210 Glu Lys Ser Arg Asp Ala Ala Arg Ser Arg Arg Ser Gln Glu Thr Glu

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211          20          25          30
213 Val Leu Tyr Gln Leu Ala His Thr Leu Pro Phe Ala Arg Gly Val Ser
214          35          40          45
216 Ala His Leu Asp Lys Ala Ser Ile Met Arg Leu Thr Ile Ser Tyr Leu
217          50          55          60
219 Arg Met His Arg Leu Cys Ala Ala Gly Glu Trp Asn Gln Val Gly Ala
220          65          70          75          80
222 Gly Gly Glu Pro Leu Asp Ala Cys Tyr Leu Lys Ala Leu Glu Gly Phe
223          85          90          95
225 Val Met Val Leu Thr Ala Glu Gly Asp Met Ala Tyr Leu Ser Glu Asn
226          100          105          110
228 Val Ser Lys His Leu Gly Leu Ser Gln Leu Glu Leu Ile Gly His Ser
229          115          120          125
231 Ile Phe Asp Phe Ile His Pro Cys Asp Gln Glu Glu Leu Gln Asp Ala
232          130          135          140
234 Leu Thr Pro Gln Gln Thr Leu Ser Arg Arg Lys Val Glu Ala Pro Thr
235          145          150          155          160
237 Glu Arg Cys Phe Ser Leu Arg Met Lys Ser Thr Leu Thr Ser Arg Gly
238          165          170          175
240 Arg Thr Leu Asn Leu Lys Ala Ala Thr Trp Lys Val Leu Asn Cys Ser
241          180          185          190
243 Gly His Met Arg Ala Tyr Lys Pro Pro Ala Gln Thr Ser Pro Ala Gly
244          195          200          205
246 Ser Pro Asp Ser Glu Pro Pro Leu Gln Cys Leu Val Leu Ile Cys Glu
247          210          215          220
249 Ala Ile Pro His Pro Gly Ser Leu Glu Pro Pro Leu Gly Arg Gly Ala
250          225          230          235          240
252 Phe Leu Ser Arg His Ser Leu Asp Met Lys Phe Thr Tyr Cys Asp Asp
253          245          250          255
255 Arg Ile Ala Glu Val Ala Gly Tyr Ser Pro Asp Asp Leu Ile Gly Cys
256          260          265          270
258 Ser Ala Tyr Glu Tyr Ile His Ala Leu Asp Ser Asp Ala Val Ser Lys
259          275          280          285
261 Ser Ile His Thr Leu Leu Ser Lys Gly Gln Ala Val Thr Gly Gln Tyr
262          290          295          300
264 Arg Phe Leu Ala Arg Ser Gly Gly Tyr Leu Trp Thr Gln Thr Gln Ala
265          305          310          315          320
267 Thr Val Val Ser Gly Gly Arg Gly Pro Gln Ser Glu Ser Ile Val Cys
268          325          330          335
270 Val His Phe Leu Ile Ser Gln Val Glu Glu Thr Gly Val Val Leu Ser
271          340          345          350
273 Leu Glu Gln Thr Glu Gln His Ser Arg Arg Pro Ile Gln Arg Gly Ala
274          355          360          365
276 Pro Ser Gln Lys Asp Thr Pro Asn Pro Gly Asp Ser Leu Asp Thr Pro
277          370          375          380
279 Gly Pro Arg Ile Leu Ala Phe Leu His Pro Pro Ser Leu Ser Glu Ala
280          385          390          395          400
282 Ala Leu Ala Ala Asp Pro Arg Arg Phe Cys Ser Pro Asp Leu Arg Arg
283          405          410          415

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285 Leu Leu Gly Pro Ile Leu Asp Gly Ala Ser Val Ala Ala Thr Pro Ser
286           420           425           430
288 Thr Pro Leu Ala Thr Arg His Pro Gln Ser Pro Leu Ser Ala Asp Leu
289           435           440           445
291 Pro Asp Glu Leu Pro Val Gly Thr Glu Asn Val His Arg Leu Phe Thr
292           450           455           460
294 Ser Gly Lys Asp Thr Glu Ala Val Glu Thr Asp Leu Asp Ile Ala Gln
295 465           470           475           480
297 Asp Ala Asp Ala Leu Asp Leu Glu Met Leu Ala Pro Tyr Ile Ser Met
298           485           490           495
300 Asp Asp Asp Phe Gln Leu Asn Ala Ser Glu Gln Leu Pro Arg Ala Tyr
301           500           505           510
303 His Arg Pro Leu Gly Ala Val Pro Arg Pro Arg Ala Arg Ser Phe His
304           515           520           525
306 Gly Leu Ser Pro Pro Ala Leu Glu Pro Ser Leu Leu Pro Arg Trp Gly
307           530           535           540
309 Ser Asp Pro Arg Leu Ser Cys Ser Ser Pro Ser Arg Gly Asp Pro Ser
310 545           550           555           560
312 Ala Ser Ser Pro Met Ala Gly Ala Arg Lys Arg Thr Leu Ala Gln Ser
313           565           570           575
315 Ser Glu Asp Glu Asp Glu Gly Val Glu Leu Leu Gly Val Arg Pro Pro
316           580           585           590
318 Lys Arg Ser Pro Ser Pro Glu His Glu Asn Phe Leu Leu Phe Pro Leu
319           595           600           605
321 Ser Leu Val Cys Trp Gly Ile Asn Gly Ile Leu Trp Pro Ser Leu Pro
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324 Ser Trp Leu Lys Pro Thr Val Leu
325 625           630
328 <210> SEQ ID NO: 5
329 <211> LENGTH: 648
330 <212> TYPE: PRT
331 <213> ORGANISM: Homo sapiens
333 <400> SEQUENCE: 5
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337 Gly Glu Trp Asn Gln Val Gly Ala Gly Gly Glu Pro Leu Asp Ala Cys
338           20           25           30
340 Tyr Leu Lys Ala Leu Glu Gly Phe Val Met Val Leu Thr Ala Glu Gly
341           35           40           45
343 Asp Met Ala Tyr Leu Ser Glu Asn Val Ser Lys His Leu Gly Leu Ser
344           50           55           60
346 Gln Leu Glu Leu Ile Gly His Ser Ile Phe Asp Phe Ile His Pro Cys
347 65           70           75           80
349 Asp Gln Glu Glu Leu Gln Asp Ala Leu Thr Pro Gln Gln Thr Leu Ser
350           85           90           95
352 Arg Arg Lys Val Glu Ala Pro Thr Glu Arg Cys Phe Ser Leu Arg Met
353           100          105          110
355 Lys Ser Thr Leu Thr Ser Arg Gly Arg Thr Leu Asn Leu Lys Ala Ala
356           115          120          125

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VERIFICATION SUMMARY

DATE: 04/12/2007

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TIME: 12:28:01

Input Set : A:\US 10596627 Seq List 237368.txt

Output Set: N:\CRF4\04122007\J596627.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date